

VIRGINIA:

BEFORE THE VIRGINIA GAS AND OIL BOARD

APPLICANT:	VIRGINIA GAS AND OIL BOARD ) VIRGINIA GAS On Its Own Motion ) AND OIL BOARD )
ACTION CONSIDERED:	MODIFICATION OF: (1) VIRGINIA OIL ) GAS CONSERVATION BOARD (OGCB) ) DOCKET NO. ORDER NO. 3-90 ENTERED MAY 18, ) 93-0316-0348-03 1990 AND VIRGINIA GAS AND OIL ) BOARD (VGOB) ORDER NOS. ) 93-0216-0325 ENTERED APRIL 5, 1993 ) AND 93-0316-0348 ENTERED OCTOBER ) 23, 1993 (herein collectively "Oakwood I ) Order"); VGOB ORDER NOS. 91-1119- ) 0162 ENTERED MAY 28, 1992, ) 93-0316-0336/93-0316-0349 ENTERED ) JUNE 23, 1993, AND 93-0316-0348 ) ENTERED OCTOBER 23, 1993 (herein ) Collectively "Oakwood II Order"); ) (3) OGCB ORDER NO. 9-89 ENTERED ) MARCH 20, 1989 AND A VGOB ORDER ) NO. 89-0126-0009-01 ENTERED ) DECEMBER 2, 1996 (herein collectively ) "Nora Order"); (4) VGOB ORDER NO. ) 93-0316-0348 ENTERED OCTOBER ) 23, 1993 MODIFYING THE OAKWOOD I ) AND II ORDERS (herein "Oakwood ) Modification Order"); (5) VGOB ORDER ) NO. 93-0316-0348-01 ENTERED ) DECEMBER 9, 1996 MODIFYING THE ) OAKWOOD I AND II ORDERS AND ) THE NORA ORDER (herein "Oakwood/ ) Nora Modification Order"); AND ) (6) VGOB TEMPORARY ORDER NO. ) 93-0316-0348-02 ENTERED OCTOBER ) 28, 1997 MODIFYING THE OAKWOOD ) I AND II ORDERS, THE NORA ORDER ) (herein "Temporary Order") – FOR THE ) PURPOSE OF PERMANENTLY ) DEFINING THE BOUNDARY LYING ) BETWEEN COALBED METHANE ) FIELD CREATED BY THE NORA ) ORDER (herein "Nora Field") AND THE ) COALBED METHANE GAS FIELDS )

LEGAL  
DESCRIPTION:

CREATED BY THE OAKWOOD I )  
ORDER (herein "Oakwood I Field") AND )  
BY THE OAKWOOD II ORDER (herein )  
"Oakwood II Field") AND )  
ESTABLISHING DRILLING UNITS )  
ACCORDINGLY )  
)  
SUBJECT LANDS CONSISTING OF )  
APPROXIMATELY 1840 ACRES )  
LOCATED IN THE VANSANT )  
QUADRANGLE, HURRICANE )  
DISTRICT, BUCHANANN COUNTY, )  
VA AND DESCRIBED IN EXHIBIT A )  
AND DEPICTED IN EXHIBIT B )  
HERETO (herein "Subject Lands") )

REPORT OF THE BOARD

FINDINGS AND ORDER

1. Hearing Date and Place: This matter came on for hearing before the Virginia Gas and Oil Board "herein "Board" on the Board's own motion at 9:00 a.m. on October 17, 2000 at the Rhododendron Restaurant at Breaks Interstate Park, Breaks, Virginia.
2. Appearances: James E. Kaiser, Esquire, of Wilhoit and Kaiser appeared for Equitable Production Company; Mark Swartz, Esquire, of Swartz & Stump, L.C. appeared for Pocahontas Gas Partnership and Buchanan Production Company; and Sandra B. Riggs, Assistant Attorney General, was present to advise the Board.
3. Jurisdiction and Notice: Pursuant to Va. Code § 45.1-361.1 *et seq.*, the Board finds that it has jurisdiction over the subject matter. The Board, in accordance with Va. Code § 45.1-361.19.B, published notice of the hearing of this matter.
4. Prior Proceedings:
  - a. Through the Oakwood I and II Orders, the Board established the boundaries of the Oakwood I and II Fields and established 80-acre drilling units within same.
  - b. Through the Nora Order, the Board established the boundary of the Nora Field and established 60-acre (with a +/- 15% tolerance) drilling units within same.



- c. The Oakwood I and II Fields and the Nora Field share a common boundary (herein "Common Boundary"); however, at the time of the establishment of the Oakwood I and II Fields and the Nora Field, drilling activity had not occurred in the Oakwood I and II Fields or the Nora Field in proximity to the Common Boundary or within the Subject Lands.
  - d. As drilling activity progressed toward the Common Boundary and the Subject Lands, the Board was requested to modify the Common Boundary and thereby modify certain drilling units located within the Subject Lands, and the Board did so through the Oakwood Modification Order, the Oakwood/Nora Modification Order and provisionally through the Temporary Order.
  - e. In the Temporary Order, the Board found that available data and the evidence adduced at the hearing was insufficient for the Board to determine whether the pool underlying Subject Lands has the same characteristics as, and a similar nature to, the pool underlying the Nora Field or to the pool underlying the Oakwood I and II Fields; therefore, the Board entered the Temporary Order to allow for the orderly development of the pool underlying the Subject Lands pending receipt of the information necessary to establish the Common Boundary and the drilling units within Subject Lands.
  - f. In the Temporary Order, the Board allowed unit operators to seek permits to drill six (6) wells within the Subject Lands in accordance with the Nora Field Rules, provided, however, that once those six (6) wells were permitted, no unit operator was entitled to apply for a permit to drill any subsequent well within Subject Lands unless and until said unit operator first appeared before the Board and presented its plan of exploration within Subject Lands, total number and location of proposed wells to be located therein, as well as all available technical data and evidence pertaining to Subject Lands, including, but not limited to, reservoir "modeling" of the structural features underlying Subject Lands, coal thicknesses encountered, and "gas in place" or gas content sufficient for the Board to modify the Temporary Order to permanently establish and/or modify the drilling units within Subject Lands by making the final determinations required by Va. Code § 45.1-361.20.
  - g. The Board determined that six (6) wells had been permitted and drilling within Subject Lands, and that unit operators had sought the permitting of additional wells, but that the Board's condition for the granting of said additional wells had not been met. Therefore, the Board, on its own motion, brought this matter on for hearing and ordered the unit operators having or seeking permits within Subject Lands to appear before the Board to present the evidence required by the Temporary Order.
5. Relief Considered: Modification of the Oakwood I Order, the Oakwood II Order, the Nora Order, the Oakwood Modification Order, the Oakwood/Nora Modification Order and the Temporary Order for the purpose of permanently

defining the boundary lying between the Oakwood I and II Fields and the Nora Field and modifying the drilling units within Subject Lands accordingly.

6. Relief Granted: The Oakwood I Order, the Oakwood II Order and the Nora Order are modified and amended in the following respects:

- a. The Common Boundary is established as being a line depicted on Exhibit B which is described as:

BEGINNING at the intersection of the northern boundary of Nora Field unit AS84 with longitude 82°07'30" which is the western boundary of the Vansant 7.5 minute topographic quadrangle, and the previously established boundary between the Nora and Oakwood fields, thence east to the intersection with the western boundary of Oakwood Field unit DD6, thence south to the intersection with the north boundary of Nora Field unit AT90, thence east to the northwest corner of unit AT90, thence south to the intersection with the south boundary of Oakwood Field unit EE6, thence east to the northwest corner of Oakwood Field unit FF8, thence south to END at the intersection with latitude 37°07'30" which is the southern boundary of the Vansant 7.5 minute topographic quadrangle, and the previously established boundary between the Nora and Oakwood fields; INCLUDING an area of overlap of the southwest portion of Oakwood unit EE6 with the northeast portion of Nora Field unit AT90.

- b. The areas lying to the north and east of the Common Boundary are hereby included in the Oakwood I and II Fields and shall be subject to the provisions of the Oakwood I and II Order.
- c. The areas lying to the south and west of the Common Boundary are hereby included in the Nora Field and shall be subject to the provisions of the Nora Order.
- d. To accommodate the Common Boundary, the size of the drilling units lying along the Common Boundary are modified in the manner depicted in Exhibit B, and described as follows:
- i) Oakwood Field units CC1 through CC5 and DD1 through DD5 will be compressed to 55 +/- acres per unit; east and west unit boundaries will conform to normal Oakwood Field specifications.
  - ii) The northwest portion of Nora Field unit AT90 will overlap the southwest portion of Oakwood Field unit EE6, with each unit to be operated as normal 60 and 80 acre units, respectively.
  - iii) Nora Field units AU91 and AU 92 will be modified to include acreage adjacent to the south boundary of Oakwood Field units EE6 and EE7.

7. Special Findings:

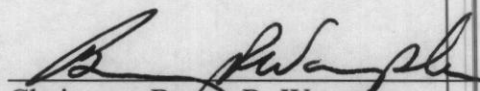


- a. The coal seams typically completed for the coalbed methane gas production within the Subject Lands range from 8' to 12', with the average being 10'. The gas in place is proportional to the amount of coal and the size of the acreage within the unit.
- b. Equitable Production Company ("Equitable") performed reservoir modeling of the structural features underlying Subject Lands using a Comet 3-D Simulator applying production data from their wells VC-3671 and VC-3651 to drilling unit sizes of 40 Acres, 60 Acres, 80 Acres and 120 Acres. Because of its production history and location, Well VC-3651 was thought by Equitable to be more representative of wells to be drilled within the Subject Lands. The simulated findings for Wells VC-3651 and VC-3678 are set forth on Exhibit B and C respectively.
- c. The Board finds that the optimum size of drilling units to be located within the Subject Lands is consistent with the Nora Fields Rules, i.e., 60-acres with a +/- tolerance of 15.
- d. Based on the evidence presented to the Board as more particularly summarized in Exhibits D and C hereto, the drilling units depicted on Exhibit A do not represent an unreasonable or arbitrary exercise of the owners rights to explore for or produce coalbed methane gas from Subject Lands.
- e. The use of the 60-acre drilling units, rather than 40-acre drilling units, will cause less interference with present or future mining of coal or other minerals and less surface disturbance; and based on its experience in the Nora Field, the Board finds that 60-acre drilling units will not unnecessarily interfere with the present or future mining of coal or other minerals.
- f. The use of the 60-acre drilling units, rather than 80-acre or 120-acre drilling units, will result in a higher ultimate recovery of the coalbed methane gas, will prevent or assist in preventing the various types of waste prohibited by statute, and will assist in protecting the correlative rights of all persons in the common sources of supply in the Subject Lands.

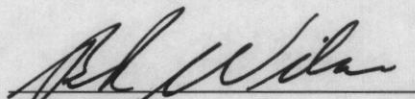
8. Conclusion: Therefore, the relief considered in accordance with the terms and provisions set forth in Paragraph 7 above be and hereby is granted and IT IS SO ORDERED.

9. Effective Date: This Order shall be effective as of October 17, 2000.

DONE AND EXECUTED this 27<sup>th</sup> day of December, 2001, by a majority of the Virginia Gas and Oil Board.

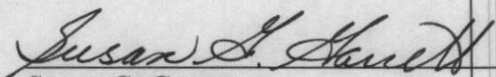
  
Chairman, Benny R. Wampler

DONE AND PERFORMED this 13<sup>th</sup> day of December, 2001, by Order  
of this Board.

  
B. R. Wilson  
Principal Executive to the Staff  
Virginia Gas and Oil Board

STATE OF VIRGINIA     )  
COUNTY OF WISE        )

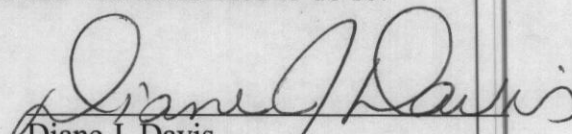
Acknowledged on this 7<sup>th</sup> day of December, 2001, personally before  
me a notary public in and for the Commonwealth of Virginia, appeared Benny R.  
Wampler, being duly sworn did depose and say that he is Chairman of the Virginia Gas  
and Oil Board, that executed the same and was authorized to do so.

  
Susan G. Garrett  
Notary Public

My Commission expires July 31, 2002.

STATE OF VIRGINIA     )  
COUNTY OF WASHINGTON    )

Acknowledged on this 13<sup>th</sup> day of December, 2001, personally before  
me a notary public in and for the Commonwealth of Virginia, appeared B. R. Wilson,  
being duly sworn did depose and say that he is Principal Executive to the Staff of the  
Virginia Gas and Oil Board, that executed the same and was authorized to do so.

  
Diane J. Davis  
Notary Public

My Commission expires September 30, 2005.



# Hurricane Creek Spacing Determination

Total Acreage position ~ 900 Acres

Unit Size Acres	Number of Wells	Gas in Place MMCF/Unit	Simulated Recovery MMCF/Unit	Recovery Factor	Simulated Recovery MMCF	Economic Recovery MMCF	Investment (M\$)	PV10 (M\$)
40	22	323	221	68.4%	4,868	4,533	3,740	1,600
60	15	485	306	63.0%	4,584	4,448	2,550	3,102
80	11	647	369	57.1%	4,058	4,050	1,870	2,949
120	7	970	485	50.0%	3,395	3,395	1,190	2,652

HC-3651

Exc

**EXHIBIT A**  
**LEGAL DESCRIPTION OF SUBJECT LANDS**

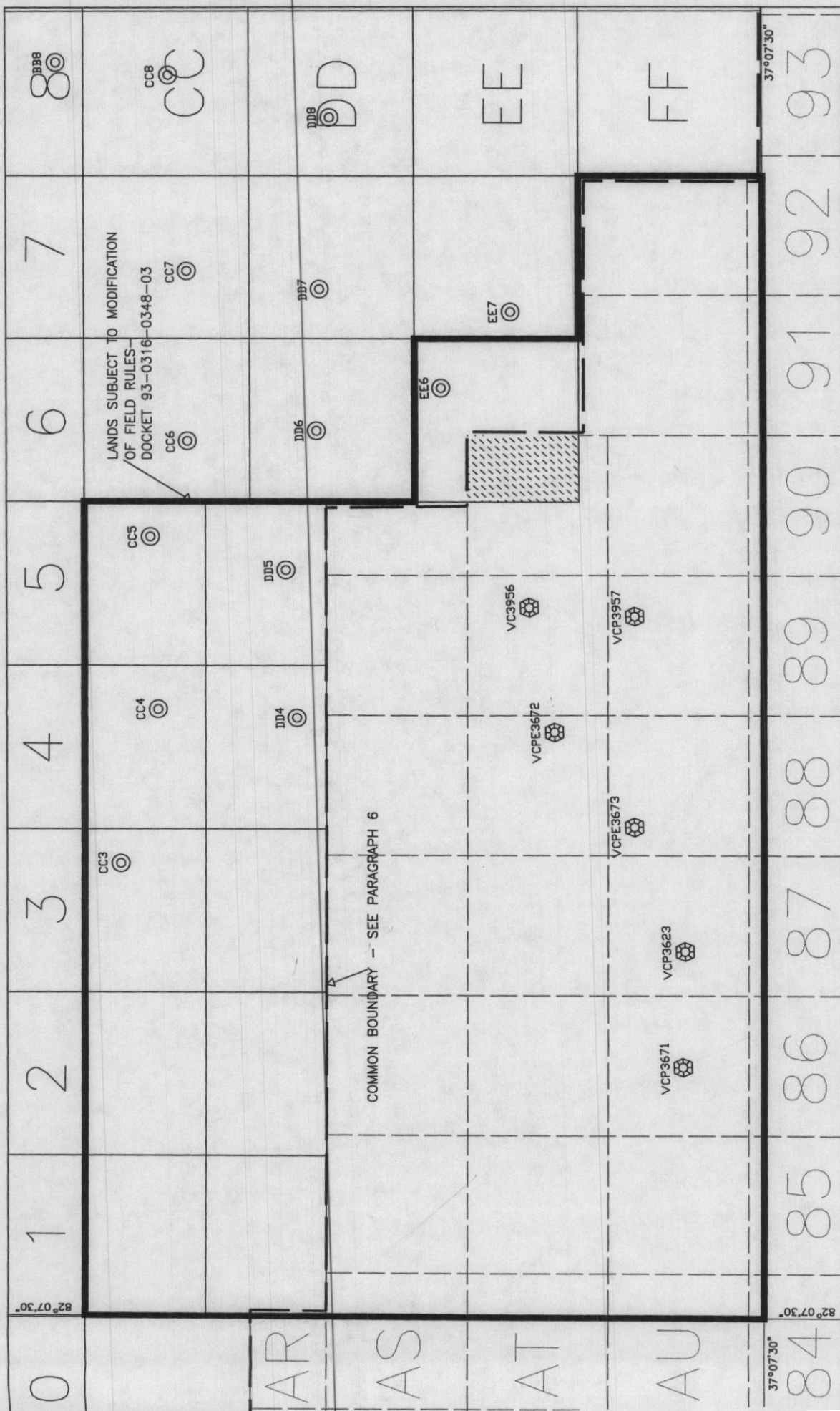
BEGINNING at latitude 37°07'30" longitude 82°07'30" being the southwest corner of the Vansant 7.5 minute quadrangle and the southwest corner of Oakwood Field unit FF1, thence north to the northwest corner Oakwood Field unit CC1, thence east to the northeast corner of Oakwood Field unit CC5, thence south to the southwest corner of Oakwood Field unit DD6, thence east to the southeast corner of unit DD6, thence south to the southwest corner of Oakwood field unit EE7, thence east to the southeast corner of unit EE7, thence south to the southwest corner of Oakwood Field unit FF8, thence west to the point of BEGINNING.



# Hurricane Creek Spacing Determination

Total Acreage position ~ 900 Acres (VC-3671 Type Well)

Unit Size Acres	Number of Wells	Gas in Place MMCF/Unit	Simulated Recovery MMCF/Unit	Recovery Factor	Simulated Recovery MMCF	Economic Recovery MMCF	Investment (M\$)	PV10 (M\$)
40	22	418	329	78.8%	7,241	7,022	3,740	5,021
60	15	627	452	72.2%	6,786	6,785	2,550	6,174
80	11	836	566	67.8%	6,231	6,230	1,870	6,396
120	7	1,253	745	59.4%	5,215	5,214	1,190	5,932



<b>EXHIBIT B</b> JOB - 93-0316-0348-03	OVERLAPPING UNITS	NORA WELL LOCATIONS  NORA GRID <input type="checkbox"/> OAKWOOD WELL LOCATIONS  OAKWOOD GRID <input type="checkbox"/>	VANSANT VA 7.5' QUADRANGLE HURRICANE DISTRICT BUCHANAN COUNTY, VA SCALE: 1" = 1000'	MAPPED BY: BW
				DRAFTED BY: GHI
				DATE: 11/18/01
				DRAWING DOCKET: 93-0316-0348-03



